

| Ref # | Hits | Search Query                       | DBs                            | Default Operator | Plurals | Time Stamp       |
|-------|------|------------------------------------|--------------------------------|------------------|---------|------------------|
| L1    | 14   | anaphylatoxin adj c3a adj receptor | US-PGPUB;<br>USPAT;<br>DERWENT | OR               | OFF     | 2005/02/07 12:13 |

FILE 'MEDLINE, BIOSIS, EMBASE, CAPLUS, LIFESCI' ENTERED AT 12:27:33 ON 07  
FEB 2005

L1 1141 S ANAPHYLATOXIN (A) C3A  
L2 101 S L1 (A) RECEPTOR  
L3 43 S L2 AND (KNOCKOUT OR DISRUPT OR MOUSE)  
L4 23 S L3 NOT PY>2000  
L5 10 DUP REM L4 (13 DUPLICATES REMOVED)  
L6 337 S C3AR  
L7 112 S L6 AND (KNOCKOUT OR DISRUPT? OR MOUSE)  
L8 52 S L7 NOT PY>2000  
L9 21 DUP REM L8 (31 DUPLICATES REMOVED)  
L10 16 S L9 NOT L5

AN 2001059574 MEDLINE  
DN PubMed ID: 11067891  
TI Cutting edge: targeted **disruption** of the C3a receptor gene demonstrates a novel protective anti-inflammatory role for C3a in endotoxin-shock.  
AU Kildsgaard J; Hollmann T J; Matthews K W; Bian K; Murad F; Wetsel R A  
CS Institute of Molecular Medicine for the Prevention of Human Diseases, University of Texas-Houston, Houston, TX 77030, USA  
NC AI25011 (NIAID)  
SO Journal of immunology (Baltimore, Md. : 1950), (2000 Nov 15) 165 (10) 5406-9.  
Journal code: 2985117R. ISSN: 0022-1767.  
CY United States  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Abridged Index Medicus Journals; Priority Journals  
EM 200012  
ED Entered STN: 20010322  
Last Updated on STN: 20010322  
Entered Medline: 20001222  
AB The complement anaphylatoxin C3a, on binding the C3aR, mediates numerous proinflammatory activities. In addition, recent *in vitro* studies with C3a have implicated C3aR as a possible anti-inflammatory receptor. Because of its possible dual role in modulating the inflammatory response, it is uncertain whether C3aR contributes to the pathogenesis of endotoxin shock. Here, the targeted-disruption of the C3aR in mice is reported. These mice exhibit an enhanced lethality to endotoxin shock with a pronounced gene dosage effect. In addition, the plasma concentration of IL-1 $\beta$  was significantly elevated in the C3aR(-/-) mice compared with their littermates following LPS challenge. These findings demonstrate an important protective role for the C3aR in endotoxin shock and indicate that, in addition to its traditionally accepted functions in mediating inflammation, the C3aR also acts *in vivo* as an anti-inflammatory receptor by attenuating LPS-induced proinflammatory cytokine production.

TI Molecular cloning of two isoforms of the guinea pig **C3a**  
anaphylatoxin receptor: alternative splicing in the  
large extracellular loop.

AU Fukuoka Y; Ember J A; Hugli T E

CS Department of Immunology, The Scripps Research Institute, La Jolla, CA  
92037, USA.

NC AI41670 (NIAID)  
DE10992 (NIDCR)

SO Journal of immunology (Baltimore, Md. : 1950), (1998 Sep 15) 161 (6)  
2977-84.  
Journal code: 2985117R. ISSN: 0022-1767.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Abridged Index Medicus Journals; Priority Journals

OS GENBANK-U86378

EM 199810

ED Entered STN: 19981020  
Last Updated on STN: 20000303  
Entered Medline: 19981006

AB The anaphylatoxin C3a is released from C3 during complement activation. C3a is a potent spasmogen and has recently been described as an eosinophil and mast cell chemotactic factor that mediates a number of inflammatory reactions. Previously, we demonstrated the presence of a specific C3a receptor (C3aR) on guinea pig platelets. We report here the isolation of cDNA clones encoding for two isoforms of guinea pig C3aR (gpC3aR). Hydropathy analysis of the deduced amino acid sequence of both gpC3aR clones indicated seven transmembrane domains with a large extracellular (EC) loop between the fourth and fifth transmembrane domains, which is a known characteristic of the human C3aR. Northern blot analysis revealed that the gpC3aR was abundantly expressed on macrophages and in the spleen. A comparison of the deduced amino acid sequence of the larger gpC3aR (gpC3aR-L) with the recently cloned human C3aR indicated a 59.5% identity. The deduced amino acid sequence of the second, smaller cDNA clone was identical with gpC3aR-L, except that it lacked 35 amino acids in the large EC loop. Our evidence indicates that alternative splicing occurred in the large EC loop that accounts for these two isoforms. L cells separately expressing one of these two isoforms of the gpC3aR showed similar high-affinity C3a binding. An RT-PCR analysis documented that both forms of the C3aR were expressed in a variety of guinea pig tissues. The cloning and expression of these two natural forms of gpC3aR cDNA indicated that the deletion of the 35-residue portion of the large EC loop of gpC3aR-L did not alter C3a binding.